

VIRGINIA WILDLIFE

AUGUST 1985

ONE DOLLAR



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J. M. Wilson

VIRGINIA WILDLIFE

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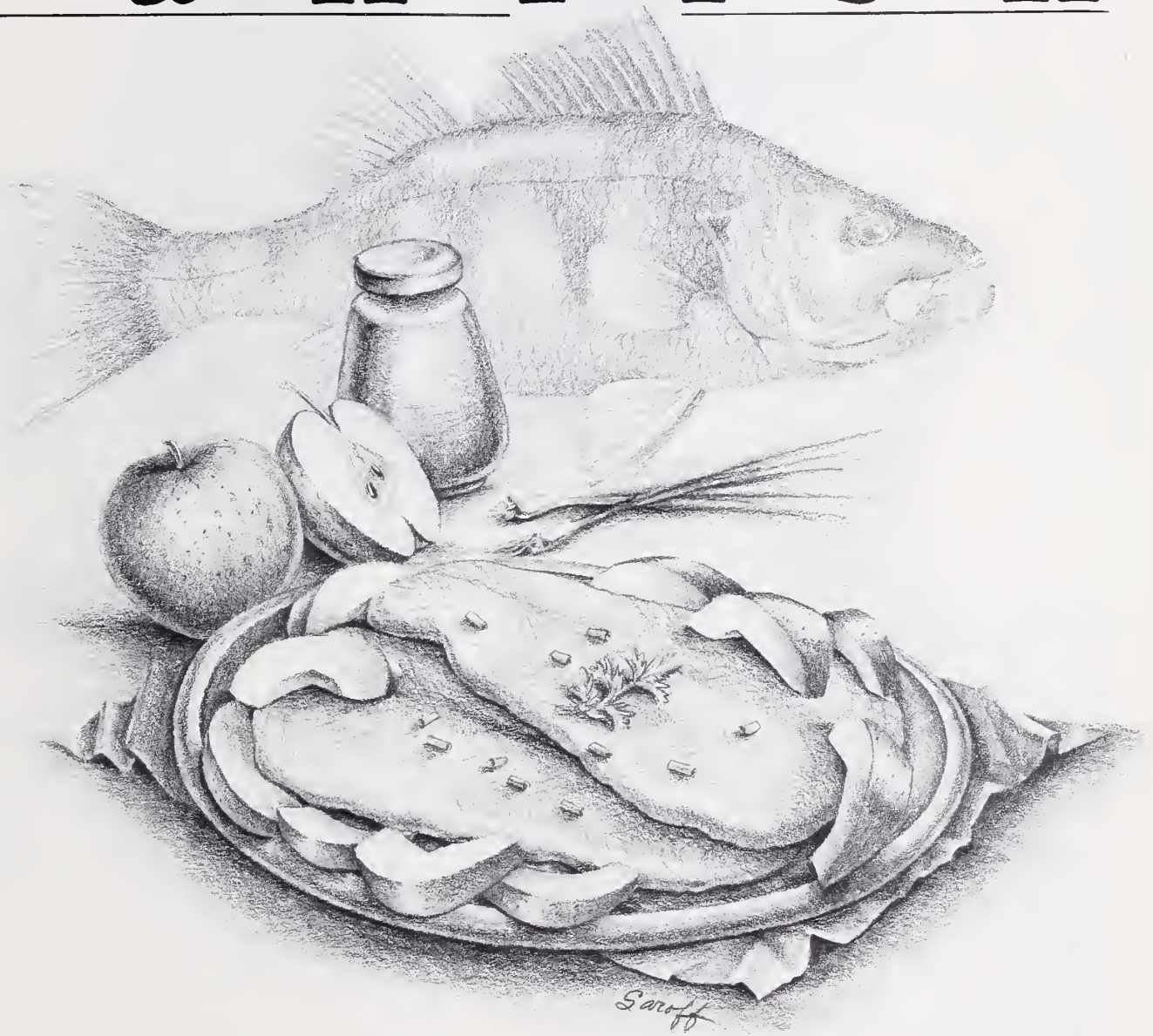
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Red-winged blackbird by Jim Wilson, Newport News, Virginia
The back cover: photo by Steve Maslowski, Cincinnati, Ohio

P a n f i s h



D e l i g h t s

Easy recipes that make
easily caught fish into gourmet treats.

by Annette Bignami
illustrations by Phyllis Saroff



Easy to find, easy to catch, easy to clean, and easy on the palate, panfish offer Virginia fishermen a pleasant alternative to other gamefish and a great sport on ultralight tackle. Bream, black and white crappie, rock and redeye bass and other panfish from fresh or saltwater don't get the attention they deserve from fishermen or cooks. That's a shame. On two pound test line and a five-foot-long ultralight rod, panfish offer great sport. On the table, panfish offer a taste treat. Give me a crappie or bluegill fillet done to a turn, and you can keep trout. But you do need to use the right kinds of recipes so these delicate fish aren't ruined.

The road to a gourmet result starts when you catch the fish. Carry a cooler so you can clean them as soon as possible instead of dragging them around in warm water all day. This will improve their taste and texture. Fillet or gut them as soon as you can and either eat them as soon as possible or freeze them in water-filled milk cartons to preserve their taste and texture.

Herb Grilled Perch

A dandy way to grill in the backyard on a hot day. The marinade goes well on fish steaks, too.

- 3 pounds perch fillets*
- 1/3 cup olive oil*
- 2 tablespoons lemon juice*
- 1 garlic clove, minced*
- 5 sprigs fresh rosemary*
- 1/2 teaspoon Worcestershire sauce*
- freshly ground pepper*

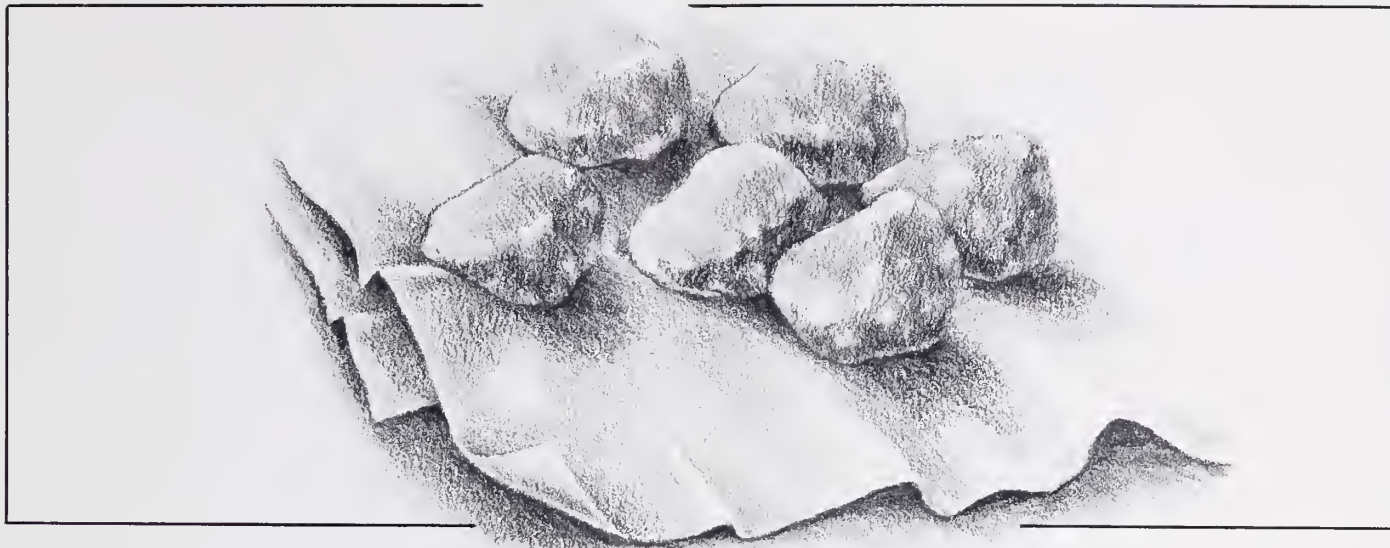
Rinse perch fillets and pat dry. Mix remaining ingredients in a small bowl and brush on both sides of fillet. Baste and grill about five minutes on each side. Sprinkle on pepper to taste and serve with lemon slices.

Perch Salad

Most people batter fry panfish or serve it hot. On a humid summer day panfish salad offers a lovely lunch or dinner alternative

- 1/2 head Boston lettuce*
- 2 cups cooked perch, flaked*
- 1/2 cup cooked shrimp*
- 1 cup cooked crab, flaked*
- 1 celery stalk, sliced*
- 1 cup lemon juice*
- 2 egg yolks*
- 1 teaspoon garlic powder*
- 1 1/2 teaspoons Dijon mustard*
- 1 teaspoon tarragon*
- 1/4 teaspoon salt*
- 1/4 teaspoon pepper.*

Tear lettuce into bite-size pieces and mix with perch, shrimp, crab and celery. Combine lemon juice, egg yolks, garlic powder, mustard, tarragon, salt and pepper in a blender and blend 40 seconds. Serve over salad. *Note:* dressing can be made ahead and refrigerated until needed.



Krispie Crappie

We find this to be an excellent alternative to fried crappie and tastes great. The coating adds texture and helps fish cook evenly.

- 2 pounds crappie fillets*
- 1 stick butter*
- 1 teaspoon garlic powder or 2 cloves of minced garlic*
- ¼ teaspoon salt*
- ⅛ teaspoon white pepper*
- 3 cups Rice Krispies, finely crushed*

Preheat oven to 375 degrees. Rinse fillets and pat dry. Melt butter over low heat, stir in garlic, salt and pepper. Cover cookie sheet with foil. Dip fillets into butter mixture and roll in Rice Krispies. Place on cookie sheet and bake 25 minutes or until brown and fish flakes with a fork.

Lemon 'Gill

A simple, delicious dish you can either broil or bake in the oven while you prepare the salad and side dishes.

- 10 or 12 bluegill fillets*
- 2 tablespoons lemon juice*
- ½ cup melted butter or margarine*
- ½ cup white wine*
- ½ teaspoon salt*
- ⅛ teaspoon pepper*
- ⅛ teaspoon dillweed*

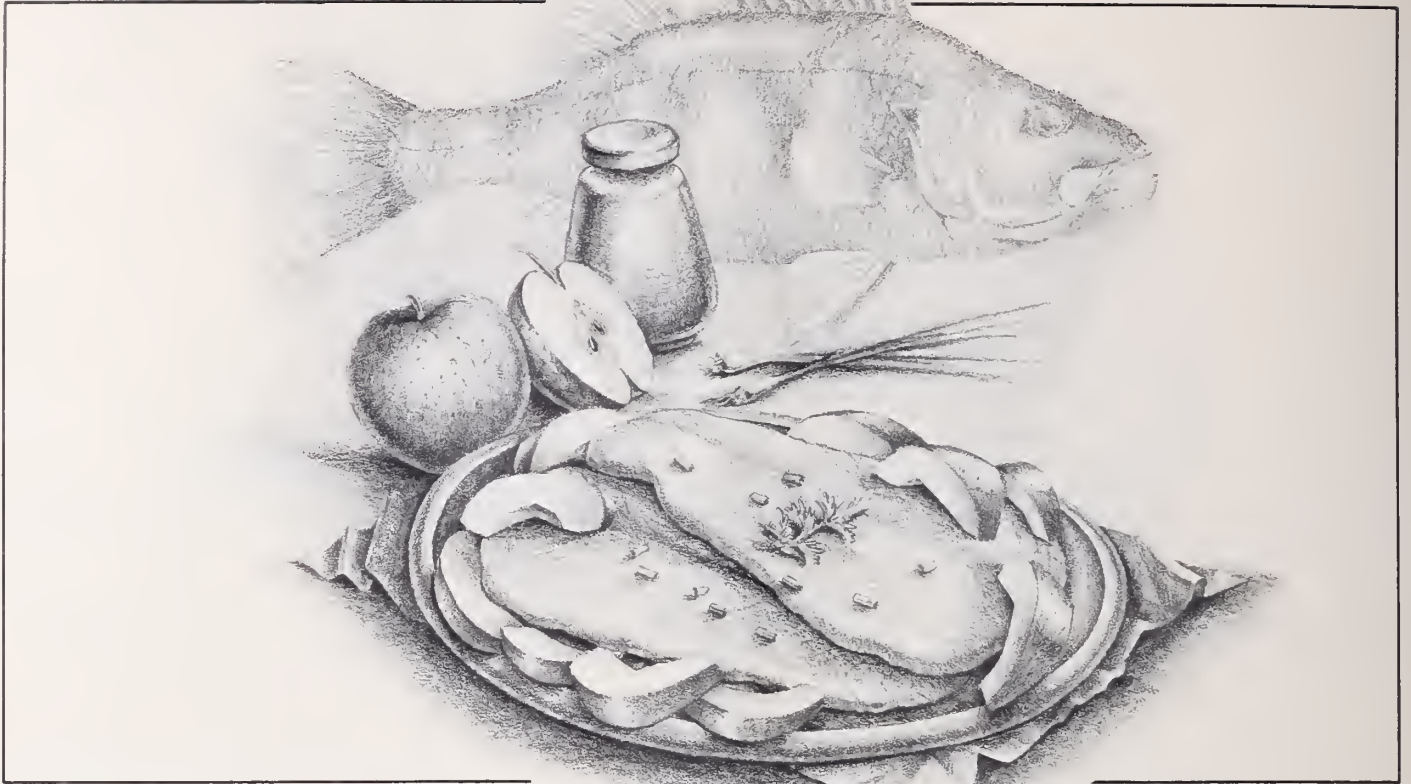
Place fillets in a shallow baking dish. Mix other ingredients and pour over fillets. Broil 6 to 10 minutes or until fish flakes with a fork. Serves two for dinner; four for lunch.

Bluegill Oriental

This very unusual recipe goes well with an oriental meal. The bite-size pieces makes superb snacks.

- 2 pounds bluegill fillets*
- ½ cup flour*
- ½ cup cornstarch*
- 1 teaspoon salt*
- 1½ teaspoons baking powder*
- 1 egg*
- 2/3 cup water*
- cooking oil*
- catsup*
- Chinese hot mustard*

Rinse and cut fillets into bite-size pieces. Combine flour, cornstarch, salt and baking powder. Beat egg and water together and mix quickly with dry ingredients. Batter should be a bit lumpy. Heat one-inch of oil in a skillet over medium heat. Dip fillets into batter and fry quickly on each side until brown, about 2 to 3 minutes. Drain on a paper towel. Serve with catsup and mustard. *Note:* the batter also works well as a coating for vegetable tempura.



Yellow Perch Baked in Apples and Mustard

This superb winter dish works well with all kinds of panfish and fish steaks. It's easier to fix than it sounds.

- 3 tart apples, sliced*
- 6 tablespoons butter*
- 8 perch fillets (1½ pounds)*
- 2/3 cup Dijon mustard*
- 1 cup clam juice*
- 2 cups white wine*
- 1 tablespoon chopped green onions*

Preheat oven to 350 degrees. Core and slice apples ¼-inch thick. Lightly brown apples in 3 tablespoons of butter. Reserve. Layer fillets in a buttered baking dish. Spread mustard evenly over fillets and layer apples over and around fish. Cover with clam juice and 1 cup of wine. Bake 10 to 15 minutes or until fish flakes with a fork. While fish cooks, combine remaining wine and onions in a skillet and reduce liquid to a spoonful. Drain liquid from baking dish into the skillet, and put the fish back into the oven to keep warm. Boil liquid to reduce by half, add remaining butter and cook 1 to 2 minutes until sauce becomes glossy and thickens. Serve fish on rice or noodles topped with sauce.

These recipes are from the 110 in my *Generic Gourmet Fish Cooking* available at \$5.00 plus \$1 postage and handling from Biggie Publications, P.O. Box 622, Rough & Ready, California 95975. While these recipes are aimed at perch or bluegill (bream) or crappie, you can use other panfish species. □

A man in a blue shirt and a hat is standing in a shallow stream, fishing. The stream is surrounded by dense green foliage and trees. The water is dark and rippling. A large log lies on the left bank. The scene is peaceful and scenic.

Don't Give Up

The Summer

The "Dog Days" can be productive for the fisherman—if he just breaks a few simple rules.

story & photos by Bruce Ingram



To “dog,” in present day slang, is to beat convincingly. The “Dog Days,” as many outdoorsmen believe, is a time when fish get the better of fishermen. With apologies to pooches everywhere, the dog days don’t have to be “dog” for Virginia’s anglers.

I learned last summer, partly by observing veteran fishermen and partly by luck, that dogging the dog days is really very easy. In short, there are at least three ways to experience successful fishing during those torrid days of July, August, and early September.

The first and simplest way is to avoid the sultry daytime altogether and fish at night. Yet many Old Dominion anglers, including this one, have been reluctant to cast under the stars.

My conversion came last July on Philpott Lake, one of the state’s top after-hours fisheries. I was to meet my guide at 4:00 a.m. and get in several hours of action before dawn.

When we met, he already had four good-sized bass in his livewell, including a four-pounder. He had landed them between 11:00 p.m. and 1:00 a.m., gone home to take a nap, and was now ready for more action.

By 4:30 we were on the water and almost immediately we both were battling bass. I quickly became a believer in night fishing.

There are several reasons why lake bass don’t bite well during the dog days. In the summertime, pleasure boating is at its peak. Plus on clear water impoundments such as Philpott and Moomaw, the water’s clarity enables the sun’s rays to penetrate the

depths. Flashing spinner baits and spoons, which were so effective earlier in the year, now spook fish.

Those negative factors aren’t a problem at night. After the first few hours of darkness when a fish’s eyes have become adjusted to a lack of light, the angling can become quite good. Fish also have lateral lines which detect vibrations, “nostrils” which pick up smells, and taste buds which determine if something is edible. So they aren’t dependent on any one sense to locate prey at night. Noisy surface artificials such as buzz baits and poppers provoke strikes as do such untraditional nocturnal lures as plastic worms and jigs.

In fact, my Philpott guide caught all his bass on purple worms on that moonless night. Some anglers swear by the full moon for night fishing.



Others claim just as strongly that the new moon is best. Whichever theory is correct, one fact is indisputable: fish have a variety of senses enabling them to feed at night and they do, especially during the dog days.

Bass aren't the only species to forage in the dark either. Claytor Lake boasts an exciting nighttime crappie fishery. Smith Mountain is famous for after midnight striper action. And lakes such as Leesville cough up plenty of walleyes after sundown.

A second way to combat the summertime blues is to visit the Old Dominions' numerous streams. We here in Virginia have a tremendous smorgasbord to choose from.

I have experienced outstanding August action on the James, Shenandoah, New, and Cowpasture rivers and on various creeks. These water-

ways and others receive relatively little fishing pressure because of the allure of the state's lakes.

Early morning and late afternoon are good times to visit streams. Plugs and crankbaits which imitate minnows or crayfish are effective. Spinners and spoons are other reliable river lures.

But there are times when even stream fish can be affected by 95 degree days and rising water temperatures. Again, a longtime angler helped solve that problem for me.

This gentleman uses the weatherman to help him score during the dog days. When the forecast is for late afternoon thundershowers, he will be on the water some four or five hours before the storm hits.

His reasoning is that fish, by means

of their lateral lines, can perceive when a front is approaching. Thus they go on a feeding binge as a storm nears.

I have learned that about a half hour or so before the storm arrives, the fish frequently hunker down and stop striking. Obviously, for safety purposes, sportsmen should be off the water by then anyway.

Stream fishing can also be very productive immediately after a summer shower. The land's runoff discolors the water and a variety of terrestrial insects and creatures have been displaced, and are paddling about.

My small stream "instructor" likes to hop into his car just as a thunderstorm is beginning so he can be on a nearby creek when the deluge ends. His neighbors question his sanity, but



A smallmouth bass is given up by the low, clear summer water.

his full creels prove his logic.

A third way to overcome the dog days is to be prepared to take advantage of the unexpected. I found this out on a steamy mid-August afternoon last year.

A friend and I had journeyed to a small impoundment not so much to fish as to photograph the local scenery. The air temperature registered 93 degrees; the lake felt like warm bath water. Surprisingly, largemouth bass were frantically foraging on the surface.

I grabbed my fly rod and over the next 45 minutes hauled in five bass over a foot long, lost several more, and had numerous strikes. There was no attempt to match any hatch. Indeed, there was no evidence of one.

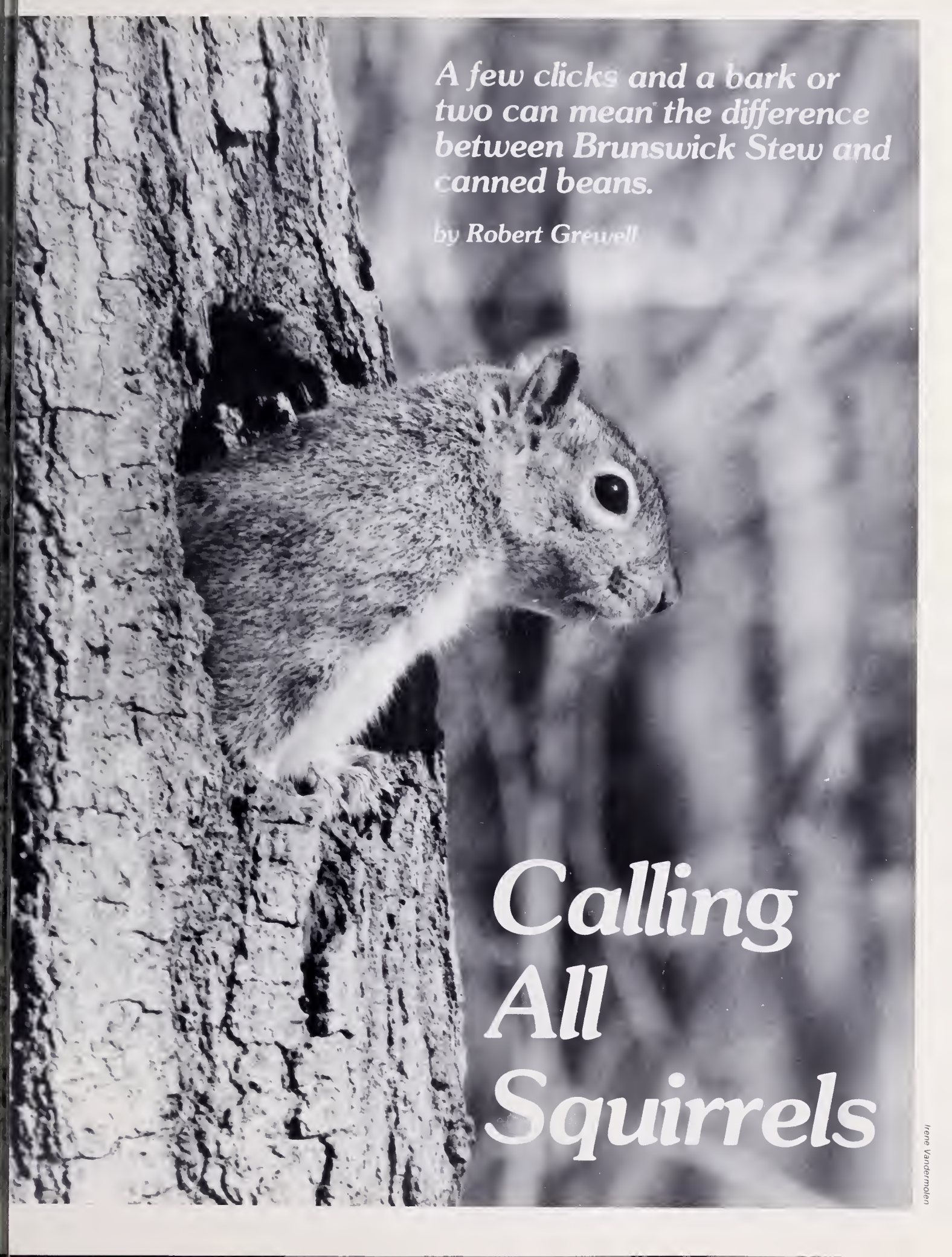
I can't explain what triggered a feeding spree that balmy afternoon. Nor can I explain that when I returned to the lake late in the evening—when the fishing is supposed to be good—I didn't receive a strike.

Earlier, however, I had been ready to do battle. Fishing is not an exact science and fish are not logical. During the dog days especially, these baffling creatures can confound expert and novice alike. Just being prepared to take advantage of a brief feeding period can make for a memorable outing.

We fishermen are fond of concocting reasons why we're unsuccessful. In the fall, we claim that the change of season has put the fish down. In winter, we state that it's too cold to even try to fish. During the spring, many of us contend that fish are more interested in reproduction than Rebels and Rapalas. And in summer, we blame the dog days.

Fish, however, adapt to the seasons. If we do the same, our luck will greatly improve.

This summer, visit a local lake at night or a nearby stream before or after a shower. And always expect fish to break all known "rules." The "dog days" need not be "dogs" any more. □



*A few clicks and a bark or
two can mean the difference
between Brunswick Stew and
canned beans.*

by Robert Grewell

Calling All Squirrels

I doubt that there is any hunter alive who has not still-hunted through a section of the rich autumn woods in search of a fat fox or a fisty grey squirrel. These elusive small game animals, can be found in woodsy habitats throughout the U.S.; more often than not they are within reach of urban human populations. They can be hunted with rifles, shot-guns, or even more challenging by using a handgun. Each of the species can be as easy to hunt as simply stalking along before daylight and popping them out of the tree as they search for food, or by preselecting a likely looking spot where you can take a seat with your firearm in your lap, and patiently wait for action.

As most hunters gain experience, it's often believed there's no squirrel alive that can escape the deadly accuracy of their firearm. But that's an untruth that proves itself annually as anxious gun hunters enter the woodlands to tune their shooting eye on these crafty small game creatures.

Most of the time, bagging at least one squirrel is even a sure thing, as long as you apply sensible hunting skills. But, when you run across a woodlot with a group of squirrels that are cautious of your human silhouette, then the only way to fool them is to coax them into range by talking to them.

For example: One foggy Saturday morning in late September, I roused my two sons from bed well before daylight. After an awakening breakfast and a short 10 minute drive, we were hunting a 60 acre tract of hard and softwood trees. A perfect place to hunt, bordered on the northeast by a slow moving stream, with all the rest of the remaining open ground skirting the other sides of the woods cropped in field corn. It was perfect habitat for squirrels; and because it was privately owned by a local farmer the hunting pressure wasn't overly abusive. But I'd hunted this stand of trees many times before and the squirrels within were wise to still-hunters and any other gunner who was careless with movement or noise. I had decided the night before that the best way to outwit these agile acrobats was to draw them into gun range by using a squirrel call.

Previous hunting and scouting trips indicated nut cuttings in numerous piles and the large trees were spaced out far enough so that we could visually single-out just about any tree we chose for inspection. The

leaf-covered acidic soil was damp from the overhanging, misty fog. This also helped in case my fidgety sons made any movement, for the sounds would be muffled by this carpet of natural softness.

I normally hunted this choice area by myself. But since there were three of us that morning, we searched out a particular spot close to the stream that always produced challenging targets. I positioned my sons on opposite sides of the base of a large oak so that at least one of us could see any incoming squirrels. The interior of the woods was just taking on enough light for safe shooting when I tapped out the first series of sounds.

The first sequence of calls produced no response. So, we waited close to five minutes before communicating. I would try again from this location. If we saw nothing, we'd quietly move to the other spot we had selected a few weeks earlier, further back in the woods.

"Dad!" Heath suddenly half-whispered. "I see movement in those two hickory trees along the creek."

"There it is dad! It's a squirrel!" Jason softly confirmed.

I carefully twisted my body around just in time to see two fox squirrels out of their leaf den, chasing each other around the main trunk of one of the hickories. They apparently hadn't noticed us.

With all three of us staring in their direction, I tapped out a quick three-burst series of calls. At first they either didn't hear the sounds or they were not interested. Heath looked back at me and shrugged his shoulders.

I tapped again, a little louder, and with a more rapid cadence. This time they stopped. The larger of the two scurried out on a limb and spit out six or eight quick challenging return barks. I tapped three more times. My reply started him scrambling toward us.

He would stop at each tree, twitch his flared tail from side-to-side, and defiantly bark back at me. He seemed intent upon challenging this artificial intruder; me.

Each time I tapped on the rubber bellows of the wooden call, he approached just that much closer. He displayed more excitement and anger the closer he came to us. It was as if he didn't want to respond, but the calling was driving him crazy. The other squirrel had disappeared. I deduced that the pair was a male and female and the male took it upon himself to





Robert Grewell

With your firearm at the ready, you can tap on a squirrel call and be ready for a quick shot.

investigate the disturbance.

While I was trying to be cautious of movement and keep my sons as quiet as possible, the squirrel had shortened the 80 yards distance in no time by hop-scotching through the tree-tops. Before he had time to challenge what he probably believed was an intruding squirrel, he was ours.

Squirrel calls are not new to the outdoor scene. And, there are several commercially made brands on the market, each with easy to follow instructions. History books tell us that imitating the bark of a squirrel was used successfully by the Indians as well as the pioneers. The sound can be produced by placing your tongue against the roof of your mouth and sucking down, while repeatedly pulling your tongue away in a rapid cadence, with your mouth held partially open; this produces a "kuk-kuk-kuk" sound. I'm sure it doesn't sound exactly like a real squirrel, but the noise is a close enough mimic to entice an inquisitive squirrel into investigating.

Some hunters will use a coin and tap its edge against their gun barrel, manufacturing a clicking noise that can either stop a running squirrel cold, or draw a shy squirrel from hiding long enough for a clear shot.

Commercially made squirrel calls have a pliable rubber bellow attached to the end of a hard plastic or wooden tube. When the call is held in one hand and the bellows are sharply tapped with the finger or fingers of the other hand, a series of squirrel-like "kuk" sounds are expelled from the call. If the call is tapped three or four times at one second intervals, then a fast cadence of eight to ten more taps are repeated right away, usually, even the wisest squirrel will come into gun range.

You'll receive your best results by locating a fertile group of nut trees and taking a seat with your back up against a large tree. If there are two of you hunting, sit on opposite sides of the tree so you can view the entire terrain. It's not uncommon for squirrels to bark back at you from a distance, then silently slip through the treetops and sneak in behind you. This is especially true of veteran bushytails that have lived through previous seasons.

Staying absolutely motionless and quiet is a must. A lot of dedicated gunners wear camouflage clothing, but toning down your outline by wearing any drab colored hunting

garment will suffice. Keep your firearm laid across your lap or in a ready position while you're calling. You can never be sure how a squirrel will react. At times they will bark from another part of the woods and keep up the chatter as they move to within range of your gun. Other times they will run from limb-to-limb, tree-to-tree, curiously trying to locate the source of noise.

The abundance of squirrels, plus

the ability to get out into the colorful autumn woods early, makes a sweet tasting squirrel dinner better than any grocery store steak. If you've gunned for squirrels for several years and find the challenge slowly slipping away, or if you've never tried a squirrel call before, take it to the woods with you this fall. You'll quickly be introduced to a unique way of hunting this bountiful small game animal. □



Robert Grewell

Binoculars are a hunting aid that should be carried in the woods every time you hunt. They help you spot game at farther distances and allow you to safely identify the animal.

BLUE RIDGE



A hawk soaring upward on a thermal is a grand sight—how would you like to see more than 17,000 in a single day?

by Lynne Kunze

HAWKWAY

It's one of those hot and humid September days. I know I'm getting sunburned, but it doesn't matter! Broad-winged hawks by the dozens are rising in thermals until they are just dots, then gliding southward in a living stream.

This fall Virginia hawkwatchers will be flocking to observation points such as this one at Harvey's Knob on the Blue Ridge Parkway to enjoy the show and gather information about hawk migration. During the fall of 1983, a total of 10,281 hawks were counted as they flew past our lookout.

Earlier in the century, concentrations of hawks most often came to the attention of hunters and farmers who killed them in tremendous numbers, considering them only vermin. Now we know a lot more about their important roles as links in the complex ecosystem; and we protect them from human predation with state and federal regulations. But we still know very little about their migratory habits.

Careful recording of the movements of broad-wings and other hawks began at Pennsylvania's Hawk Mountain sanctuary in the 1930's. Now many birders spend time both in spring and fall identifying, counting, admiring and envying these masterful fliers.

Inland, the best lookouts seem to be high peaks and ridges. From such vantage points, the birds are seen climbing on updrafts, then coasting along the ridges, just like hang-gliders. Along the coast, birds funnel into spots where large numbers may collect before crossing open water.

There are about ten established hawk lookouts in Virginia which are "manned" for much of the fall migration period. Most of these are in the mountains of the western part of the state, where the ridges run northeast-southwest, the general directions the birds are traveling during spring and fall.

Last year at Rockfish Gap, near the beginning of the Blue Ridge Parkway, hawkwatchers estimated at least 10,000 broad-wings passing over on September 15th. One observer described it as "an incredible sight."

Linden Firetower, in Northern Virginia, has been a regular lookout for six years. But the best broad-wing day there brought over 17,000 hawks past the tower on September 21, 1981.

For more than twenty years, the Mendota Fire Tower, near Abingdon,

has been a hawk lookout. Observation there was pioneered by members of the Tennessee Ornithological Society.

Another observation point is Kiptopeke Beach, at the tip of the Eastern Shore. Few broad-wings are recorded there, but last year over 15,000 sharp-shinned hawks were counted, along with record numbers of falcons: 2,452 kestrels, 217 merlins and 49 peregrine falcons.

In our Commonwealth, there are only about twelve hawk species we can expect to see regularly and that makes learning to identify them an enjoyable challenge. Of course, the fastest way to learn is to spend time with experienced hawkwatchers, since each species has not only its special field marks but also its own flight characteristics.

Broad-wings, red-tailed and red-shouldered hawks are members of the genus *Buteo*. They and their closer relatives, the bald and golden eagles, have broad wings and tails, ideal for catching a lift on thermals or sailing along ridge updrafts.

Accipiters, such as the sharp-shinned and Cooper's hawks, have short, rounded wings and proportionately long tails. Their flight pattern has often been described as "flap, flap, flap, sail."

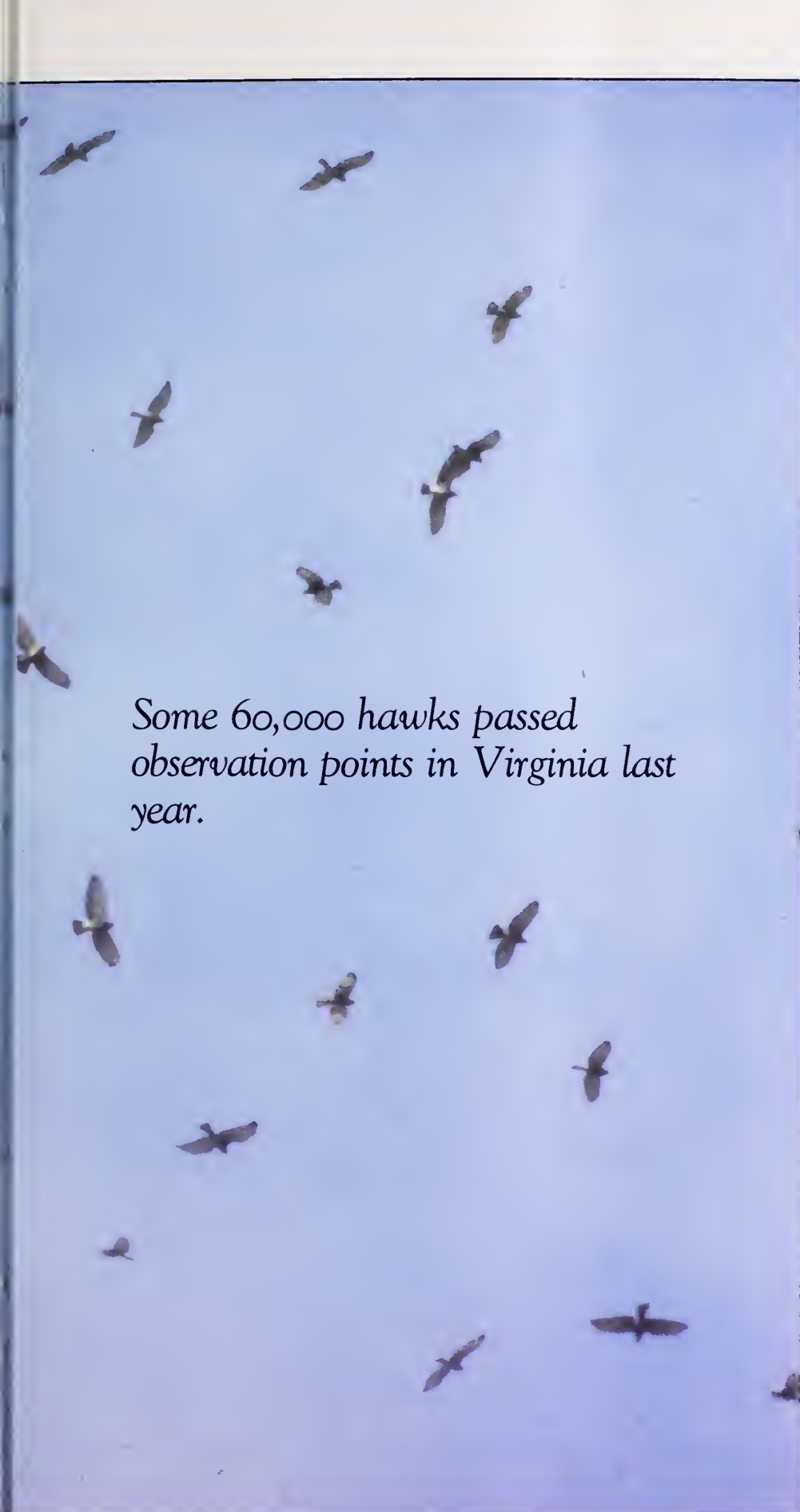
Falcons of all sizes usually fly with rapid wingbeats of their long, pointed wings. (For more about the habits of our smallest falcon, the American kestrel, see *Virginia Wildlife*, December, 1983.)

Hawkwatchers across the country record information on hawks, their movements, the weather, and anything else that seems of interest. Sometimes even the sex of a bird can be determined. For example: male northern harriers (marsh hawks) are gray, females are brownish, and the young of the year have orange-tinted breasts.

The Hawk Migration Association of North America (HMANA) collects this information and publishes summaries twice a year. This group of volunteers holds periodic conferences and in other ways enables serious hawkwatchers to keep in touch with other enthusiasts. HMANA can also provide data to ornithologists trying to piece together facts about the biology of these birds of prey.

The Virginia Non-Game Wildlife and Endangered Species Program is also playing a role, especially in the protection and reestablishment of





*Some 60,000 hawks passed
observation points in Virginia last
year.*

populations of endangered bald eagles, peregrine falcons and ospreys.

Broad-wings, many ospreys, and individuals of several other species winter in the tropics where food is more accessible. Other hawk migrants move only as far as the southern states. All move northward again in the spring, to breed and rear young in temperate regions. The spring migration seems to take place on a broad front, and we see fewer birds pass our Virginia lookouts than in the fall.

September brings us the flocks of broad-wings, young now grown as large as their parents, and with them a sprinkling of sharp-shins, ospreys and even bald eagles. Being able to see, and perhaps photograph, these precious symbols of our nation is like winning a prize!

October's unpredictable weather brings a predictable increase in the number of sharpies. Turkey and black vultures also move past Harvey's Knob in small flocks. This is the time when I don't know whether to bring cold lemonade or hot coffee. The lookout may also be fogged in, even if it's clear ten miles away.

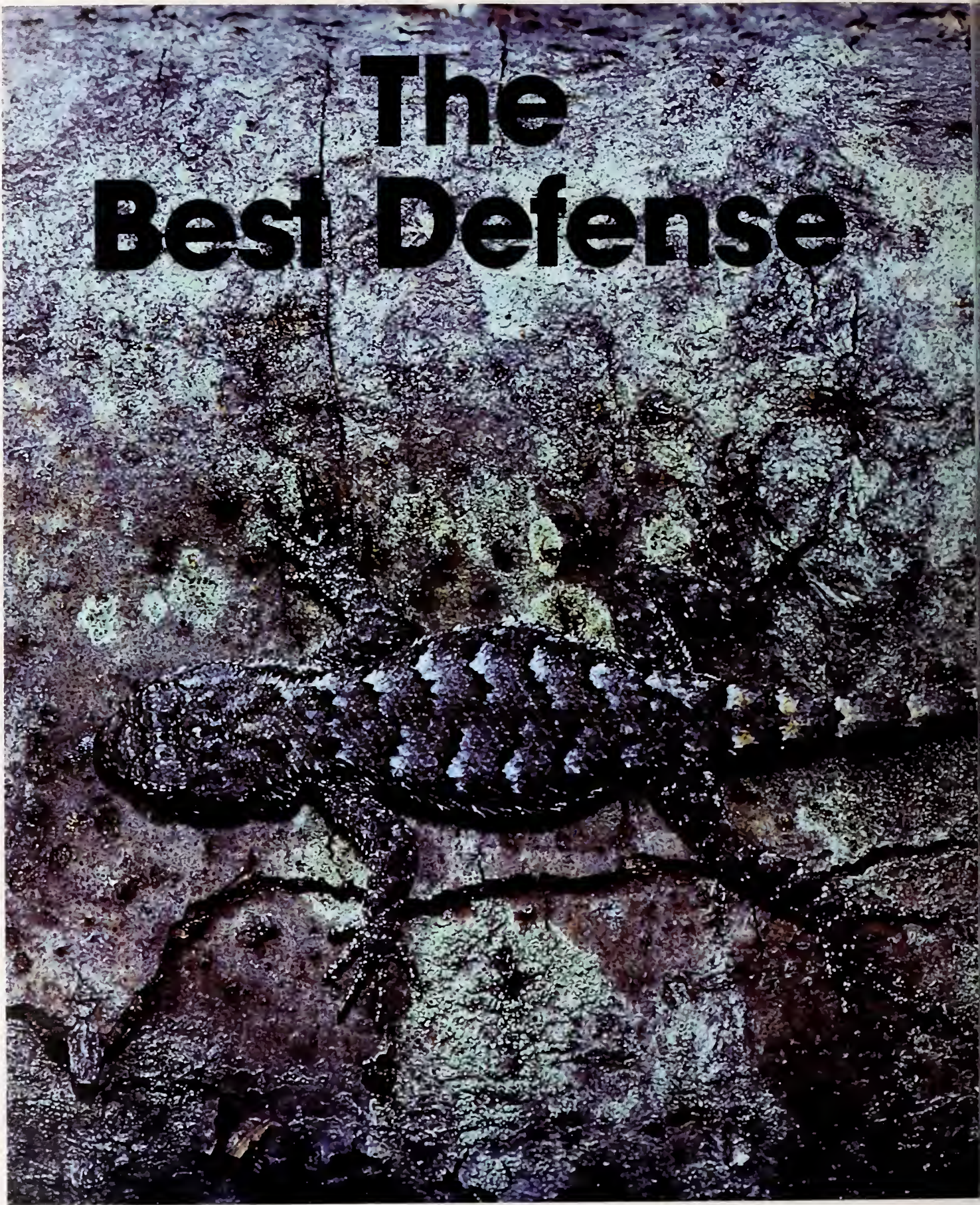
The best days are bright, with some clouds. Then I can focus high in the sky and scan the valleys. Even if hawks are few, other birds may appear to entertain us. I have trouble with the little green warblers, which look so much alike in the autumn, but there's no mistaking the acrobatic ravens which spend the entire year in these mountains.


November's cold north winds thin the ranks of both birds and watchers, though red-tails continue to move southward. This is also the time of the golden eagle's passage. Most years bring a few to reward the determined holdouts.

Right now I'm thinking about getting the lawn chair into the trunk of the car, and stocking up on sunscreen. The fall hawk migration season has begun, and with it the hawkwatching season. Will you join us?

If you're interested in seeing migrating hawks this fall, write Daniel Puckette, HMANA Regional Editor, 1471 Ashbourne Drive, Lynchburg, Virginia 24501. For information on our mountain lookouts contact Bill Williams, leader at Kiptopeke Beach Lookout, 285-49 Merriam Trail, Williamsburg, Virginia 23185. □

The Best Defense





Many animals play
a constant game of hide
and seek and have developed
fascinating and effective
methods of defense.

story & photos by Curtis Badger

When I was eleven years old, I helped organize a secret organization called the Order of the North American Woodsmen. The club was so exclusive, in fact, that there were only six members.

The goal of the club was to instill in its members all the skills needed for self-sufficiency in the wilderness. Our goal was to live like Indians, at one with the forests and the earth, dependent only upon our keen senses and well-honed skills for survival in the wild.

If you are old enough to remember much about the late 1950's, three things might stick out in your mind: tail fins on cars, Elvis on the Ed Sullivan Show, and fallout shelters. My uncle was very active in the local civil defense organization, and he talked a lot about fallout shelters. He gave my parents brochures and newspaper articles on fallout shelters, and he and my father talked about what they should stock a shelter with: cases of canned vegetables, dried beans, flour, salt, water, coffee, and lots of chicken soup. My uncle studied fallout shelters very carefully, and he knew exactly how many square feet of concrete would be needed to protect us if Khrushchev beat Ike to the punch.

Maybe at age eleven I was a little bit claustrophobic, but the entire business of fallout shelters scared the heck out of me. One day I read in one of my uncles' brochures a diagram that showed how long you would have to stay in the fallout shelter if a bomb were dropped a certain distance from you. Because we lived on the Eastern Shore, about halfway between two major targets, Norfolk and Washington, D.C., I figured that if Khrushchev hit us with a really big one, we might be in that fallout shelter for years.



I had no intention of devoting the sweetest years of my adolescence to eating lentil beans and chicken soup in a concrete bunker, and my friends felt the same way. So we started the Order of the North American Woodsmen, and we vowed that if the Russians ever came, we'd take to the hills. We'd go far enough away so that the fallout could never find us, and we'd live carefree, nomadic lives, a combination of Robin Hood, Huckleberry Finn, and Geronimo.

Our club had a plywood and tarpaper headquarters—the fort, we called it—in a pine wood behind Elbert Jones' house. It was at the fort that members studied Indian lore and woodsmanship and prepared to become courageous wandering nomads. It was also at the fort that other matters of important business were held. I once traded Billy Anderson all my 1957 Philadelphia Phillies baseball cards, plus one Stan Musial, for a single Mickey Mantle. I still think I got the best of that deal.

It was at the fort that I became interested in the curious ways in which animals defend themselves. It was ironic, I suppose, that I would learn about animal defense because of Khrushchev and fallout shelters, and two governments' insistence on being able to incinerate each other tenfold.

One late September day, bitten by the lethargy that only a fifth grader can know early in the school year, the six of us decided to have a short meeting at the fort after school. Elbert, in his customary need to be first, raced ahead of the rest of us and arrived at the fort with a good hundred-yard lead. But when he reached the doorway, he seemed to freeze in mid-stride. For a full second it was as if he had become suspended in time. Then, with a shrill scream that must have

carried for miles, Elbert came running back toward us. "A snake," he screamed. "There's a snake in the fort."

We approached the door very carefully, our curiosity overpowering our fright. "It's a copperhead," said Elbert. "It's at least six feet long." The snake was coiled in a corner of the fort, obviously wishing it were someplace else. It was brown and tan, with various shaded concentric hourglass bands, and it was disappointingly small, perhaps half of Elbert's estimated six-feet. I found a long pine limb on the ground and probed at the snake. "Be careful," said Elbert. "That snake can kill a grown man in five minutes."

The snake puffed itself up in a great display of aggression, and the six of us scrambled for the door. We slowly returned and I touched it with the stick again, the snake did a strange thing. Instead of coiling as if to strike it writhed and twisted as if in terrible pain, then rolled onto its back and became still, its tongue lolling from the side of its mouth.

"You've killed it," said Elbert.

"I hardly touched it," I said.

We drew closer to the snake, and Elbert took the pine stick and nudged it. It didn't move. He nudged it again and it remained still. Finally, he flipped the snake over onto its belly, and as soon as he removed the stick the snake again twisted and writhed and went belly-up.

"It's playing 'possum'," said Elbert. "It's trying to make us think it's dead." And so it was. Every time we flipped the snake over, it would again roll onto its back and go into its death scene. Finally, having pity on the exhausted snake, we picked it up with the stick and placed it on the ground a good distance from the fort.



(Preceding page) Lizards like this one often blend into the background and use little else for protection. (Far left) The praying mantis' stick-like body and green coloring make it difficult to see on many plants. (Left) Green snakes also blend well with their tree top surroundings. (Right) The snail's protection is always there for him to slide into.

It again went into its performance, and we left it alone. When we checked on it an hour later, it had gone.

The snake was not a copperhead; it was a harmless hognose snake, and I later learned it was well known for its acting abilities. But the snake made an indelible impression on us, and it made me think about how animals defend themselves. Most wild animals are considered somehow aggressive and dangerous, but in truth most animals have developed very specialized methods of avoiding confrontations.

The hognose snake's primary line of defense is its color; when it is lying on the forest floor, it is all but invisible. When it makes the mistake of getting caught on the floor of some fifth graders' fort, it resorts to theatrics. First there is the aggressive bluff, and if that fails, it does its death act, performed with all the histrionics of a bad guy gunman in a Fifties western.

Most animals prefer to keep a low profile. They blend in well with their surroundings, and some are almost invisible in the proper habitat. That's why rabbit hunters have to literally step on the animal to flush it out. That's why, when our pointer has one of his rare good days, it means the birds were "holding" well; they weren't running or flushing early.

Most animals are so adept at hiding, that on a casual walk through the woods, you could pass all sorts of critters without realizing it. Animals use camouflage for a variety of reasons, most of which have to do with either eating or being eaten. A moth blends in with the tree trunk on which it rests so it will not be seen by birds or other predators. The praying mantis, however, conceals itself in green

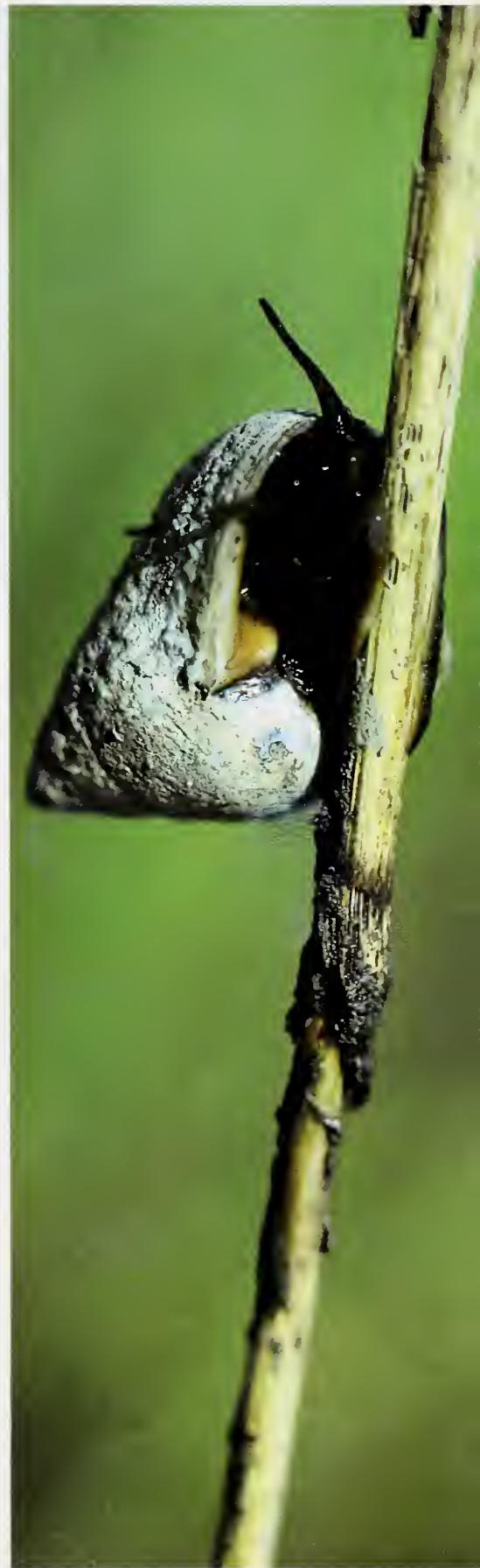
foliage, not only to hide from predators, but to ambush an unsuspecting insect that happens by. Some insects carry the art of camouflage to the extreme, going as far as to disguise themselves as sticks, rocks, and leaves.

The ability of animals to hide, to blend in with their surroundings, can literally determine the survival of the species. Charles Darwin described the theory of natural selection in *On the Origin of Species* (1859). Animals that have characteristics (such as camouflage) that help them survive in a particular environment tend to increase in number. Animals that do not have such advantages tend to go the way of the tail fin.

The process is a subtle and lengthy one, but when the conditions are right, it can happen swiftly. Consider the case of the peppered moth in Britain in the late 1800's. Although there had been rare sightings of black moths prior to 1850, the peppered moth was thought to have existed only in a pale gray form, which matched the lichen-covered tree trunks on which the moths rested. But when British industries developed coal-fired factories, pollution killed much of the lichen and blackened the tree trunks on which the moths lived. By 1900, black moths were common in industrialized areas, but the pale gray form was a rare sighting.

In rural areas, where the lichen had not been harmed by the polluted air, the pale form continued its dominance. Scientists say bird predation was responsible for this rapid adaptation. Moths, which lost their ability to camouflage themselves, suddenly became vulnerable, while those which adapted thrived.

Some animals undergo seasonal





One of the hognose snake's defenses is to simply roll over and play dead.

changes in color. In the northern latitudes where snow blankets the ground for months at a time, animals adapt by changing color. The fox, lemming, weasel, and hare are brown during the warm months, but when winter comes they change to a white coat which gives them protection in the snowy land.

For other animals, such as the chameleon, the octopus, and squid, change of color happens almost instantaneously.

The ability to hide has been developed by many animals that are active at night and rest during the day. A moth clinging to the trunk of a tree, pressing its wings tightly against the bark eliminating any shadow becomes almost invisible.

The ability to blend into the surroundings is especially important for young birds which have not yet developed their flight feathers. Terns, plovers, and oyster catchers nest in the open on beaches. Their eggs are speckled and are very difficult to spot in the slight depressions in the sand which serve as nests. The young birds' coloration also helps to conceal them.

Marsh birds are particularly adept at hiding. The clapper rail lives in tall cordgrass and is seldom seen until unusually high tides drive it from its cover. For rails, flight is a last resort. Indeed, the bird is not a good flyer and seldom makes use of its flight ability.

One of the marsh birds most proficient in the art of camouflage is the bittern. Its stripes present a good imitation of cordgrass, and when the bird is alarmed it will stretch its head and neck upward so the streaks in its plumage run parallel with the stalks of grass.

Many animals have a reverse approach to protective coloration. Instead of having cryptic coloration that enables them to hide, some animals are conspicuously colorful with bold designs and bright colors. The bright colors of many frogs and insects signal to potential predators that they are not a tasty dish. Some palatable insects actually mimic others which are poisonous or foul tasting, and some butterflies and beetles have colorful "eye" patterns that offer them protection by mimicking snakes or other animals.

Last summer I noticed our cat playing with something on a stack of firewood. It had cornered a blue-tail skink and was cautiously batting it about, while the unfortunate skink was doing its best to disappear in a crevice between two logs. Finally, the cat got a firm grip in the skink's iridescent tail, and the contest seemed pretty much decided. But in an instant, the skink had disappeared into the woodpile, and the puzzled cat was left holding the squirming blue tail of the skink.

The bright blue tail serves as a lure for predators, and it detaches easily

from the body, enabling the skink to make a quick getaway. The skink that escaped our cat would soon grow another blue tail, which next time might help it escape one of the birds that patrols the woodpile.

For many birds, color is more a social tool than a means of defense. Male birds of many species tend to dress gaudily when the mating season is near, and they depend on alertness and flying ability to escape predators. Birds which use camouflage as a defense often use song for social signaling. Hence, some of the best singers are rather drab looking, while the colorful birds generally have drab songs.

But there is nothing drab about the wonderfully complex and effective methods which animals have developed to protect themselves. The best defense, depending upon the animal, could be the ability to hide, to imitate a stick or leaf or an insect that predators find unpalatable, or like the hognose snake that wandered into our clubhouse, a well-practiced aptitude for theatrics.

It seems sadly ironic that while these animals have evolved such fascinating and effective methods of defense, it is human kind, representing the very top of the evolutionary ladder, who has evolved a method of defense that threatens to annihilate life rather than to preserve it. Perhaps there are still things for us to learn from the animals. □



Home in the Reef

*A place for the bluegill
and crappie to play—and the
angler to enjoy good fishing.*

story & photos by John R. Copeland

It started out to be a routine work day as I hitched the boat trailer to the pickup truck and climbed into the cab next to my supervisor. The task at hand was to attempt to create better fishing opportunities at one of the Game Commission's lakes. I was curious as to the selection of the method to be used for doing this and asked about it as we pulled onto the highway.

"Price, I understand that we are going to install brush reefs to create areas of cover for fish. Why the decision to do that in this particular lake?"

Price was quick with his answer. "Well, John, the bottom of a man-made lake is usually barren. Underwater structures can be added so fish have areas for hiding and feeding. We are going to create such a structure today by putting underwater brush reefs in this lake."

With that answer in mind, I sat back to enjoy the ride and think about what Price has said. The concept of fish being attracted to cover was not new to me. As a fisherman, I knew that I caught more fish near naturally occurring objects like submerged logs and brush. The more I thought about it, the clearer it became. Objects added to a lake or pond could produce the same effect! I decided to look into the topic further when we returned to our office.

This article is the result of my research on fish reefs. In every scientific study I read, the conclusion was

the same. Putting underwater structures into a lake or pond can increase fishing success. Our efforts to improve fishing at Game Commission lakes by installing fish reefs works. If you want to catch more bass, bream, crappie, and catfish, use the well-marked reefs at our lakes. If you want to catch more fish from your own pond, consider installing reefs and using them. Before you rush out to do it though, take a few minutes to read on and learn more about them.

Do you need fish reefs?

The main thing to consider before putting reefs in your pond is whether adding cover to your pond will increase your fishing success. If your pond is newly constructed and tree stumps and brush were not left on the bottom, adding reefs can improve fishing. If your pond is older, and is located in a woodlot, it may already have some underwater structures. Take note of trees and brush that have fallen into the pond. These serve as naturally occurring reefs. If your pond is located in a pasture, chances are it has little underwater structure. Ponds in pastures can provide better fishing if reefs are added. Evaluate your pond on the basis of the amount of underwater structure in it. Keep in mind that too many structures will disperse fish instead of concentrating them. However, if the bottom of your pond is barren, adding fish reefs will concentrate them.

What kind is best?

When you determine that your pond needs fish reefs, you need to know what material to use. The best all-around material is brush. Research shows that brush reefs concentrate more fish than ones made of other materials. Brush is a natural material, so it does not look out of place in a pond. Because it is usually available in the immediate vicinity of a pond, brush is inexpensive to use. The best brush to use is one that is highly branched and decay resistant (such as cedar).

Different types of brush concentrate different types of fish. If your pond has crappie in it, cedar is the best brush to use. If your pond does not have crappie, hardwood brush bundles are best. The best hardwoods to use are decay resistant ones like oak and hickory. The life of your reefs will vary according to the type of material used. Hardwood brush bundles may last as long as ten years. Cedar trees must be replaced every



This is a typical fish reef tree. Note the tree's broad shape and numerous branches.



A Game Commission boat loaded with fish reef trees.

Fish reefs should be well-marked. This is a buoy marking a fish reef at one of the Game Commission's lakes.



three to four years in order to retain their effectiveness.

Where do you put them?

The best procedure to follow when installing fish reefs is to improve areas where fish normally congregate. One possibility is to put them near drop offs and old creek or river channels. If your pond does not have drop offs or channels, construct reefs around the edge of the deepest hole in your pond, but not in the hole. Put them in about 10 to 15 feet of water, using trees or brush bundles that extend to two feet below the surface. These reefs have a high profile so fish can move up and down in them as water temperature and level fluctuates.

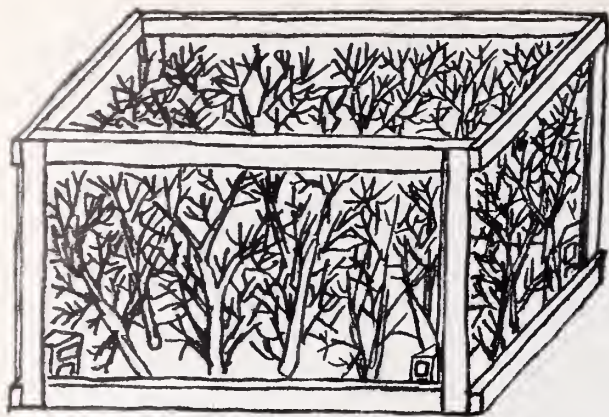
“It may take a few months before you notice improved fishing in the vicinity of your fish reefs. Be patient!”

How much and how many?

By now, you are probably wondering how much area a fish reef should occupy and how many you need. The size and number depends on the amount of natural cover in your pond and the surface area of your pond.

Most experts agree that reefs should occupy less than 1% of the pond surface area. If your pond already has about 1% of the surface area in natural cover, you won't need to add reefs.

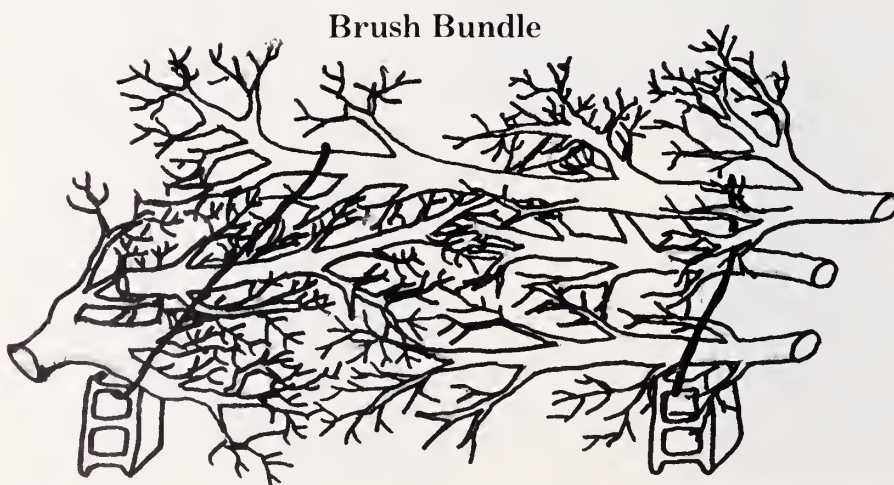
The best rule to follow when installing fish reefs is to be conservative! Start building yours by putting out a few trees or a brush bundle at each likely site. Note any changes in fishing success near these sites over a period of one year. Then, improve and maintain one or two of the most successful ones.



Square Frame Brush Shelter



Pyramid Shelter



Brush Bundle

Guidelines for Construction

Illustrations by James F. Copeland

Now that I have covered the preliminary information, let's talk about construction. Whether you use cedar trees or hardwood brush bundles, you need weights to keep them on the bottom. We use scrap masonry blocks. We get all the blocks we need by asking for them at construction sites. After all, we save contractors the expense of hauling them to the dump!

Tree Reefs

If you build a reef with trees, tie a float (such as a plastic milk jug) to the top of each tree in order to keep it upright. Tie a masonry block to the stump and heave the tree overboard! Try to leave a few feet of space between trees. If possible, arrange the trees in an irregular pattern in order to provide fish with more area for hiding and feeding. Remember to use trees that reach within about two feet of the surface of the pond. For example if the site is 10 feet deep, use trees that are eight feet tall.

Brush Bundles

If you build a reef with brush bundles, build the bundles with branches no larger than two inches in diameter. There is no need to use floats, but you will need more weight than you did for individual trees. Three or four masonry blocks per bundle should work well. Remember to tie the bundles together loosely with nylon or plastic rope so they don't fall apart. Look at the pictures in this article for possible shapes for your brush bundles, but don't throw your imagination out the window when building them.

Looking Back

Now that we've covered the guidelines for construction, let's take a few moments to recap the major points.

1. Be sure your pond needs fish reefs.
2. Decide what materials are best for your pond.
3. Find the best sites for your reefs.
4. Decide how many and what size reefs you need.
5. Gather the necessary materials.
6. Assemble and install the reefs.
7. Decide which sites you should upgrade and maintain.
8. Stop working and start fishing!

It may take a few months before you notice improved fishing in the vicinity of your fish reefs. Be patient! If your pond has a healthy fish population, you will increase your fishing success by adding reefs and fishing near them. □



Blue-winged Teal

The Art of
Jim Wilson



Canada Geese



(Above) Jim Wilson's little "barn" and head-quarters. (Opposite page) Jim and friends in his studio.

Surrounded by vast tidal marshes on a bank of the Warwick River in Newport News, a great blue heron patrols the murky waters, its large eyes searching for any sign of movement.

Less than 100 yards away, just inside the big barn doors of his studio-office known as the Outback, Jim Wilson returns his gaze to another marsh scene, a lovely twilight setting of blue-wing teal adrift in the soft pastel shades of the sky reflected water.

Jim Wilson has lived his entire life traversing the back rivers and coastal marshes of the Tidewater and hiking the upland hills of the Blue Ridge. To Jim there is no better place on earth to view the inspiring beauty of nature than his native Virginia.

Jim started drawing at age five and throughout his adolescent years was seldom without a pencil and sketchpad. "I drew anything and everything I saw, from portraits of friends to old barns." When short on interesting subjects he turned to his fertile imagination, dabbling in many forms of art, from abstract and surrealistic to animation and



Cottontail



cartooning. "In 1980 I became interested in transparent watercolor and the opportunity it could afford me to render with color the same detail that I was used to capturing with pencil, and it has turned out to be the first choice for most of my work."

Before the painting begins Jim makes a careful drawing on the watercolor paper, accurate in every detail. "I always start with the eyes," Jim explains, "taking great care to instill a sense of life and personality into the subject. If I am not satisfied at this stage I know I must start over, for the eyes are the focal point of the entire work and they set the emotions and individuality of the subject." With this kind of dedication a painting may take several months to complete but they speak for themselves of the success of Jim's efforts.

Jim will be attending the Easton Maryland Wildfowl Festival as well as three other shows this fall, so look for him there. For more information and a free brochure on collector prints, write to Jim Wilson, Outback Studios of Virginia, 711 Lipton Drive, Newport News, Virginia 23602. □



Bird of the Month

Glossy Ibis

Virginia's Eastern Shore coastal islands have long been attracting visitors just to view its unique and varied birdlife. Various types of shore, marsh and water birds nest on the Barrier Islands of Metomkin, Parramore and others, that do not commonly nest anywhere else. Some species have actually expanded their ranges to the Virginia coastal islands in the last 30 years.

One such bird is the glossy ibis, a bird that at a distance appears all black. In a flock it flies in goose-like vees or lines with legs carried out behind and neck outstretched. They flap and glide, then flap again, with a quicker wing beat than an egret or heron. If close enough, its long, slender, decurved, or down-curved bill, is very noticeable. Actually, this two-foot long bird has a rich, purplish-chestnut gloss on its head, neck, back wings and tail, merging into a glossy, purplish-green on its body depending on how the sunlight may hit it. Its sides and undertail coverts look mostly dusky green as do its primary wing feathers. The bare skin around its eye is slaty-blue while its legs are grayish or greenish-black. Juvenile birds are dull brown with a tinge of metallic green above and light streaks on head and neck. Adults in winter are duller brownish-black streaked with white.

The glossy ibis is a worldwide bird, being widely distributed in the eastern hemisphere from southern Europe, south through Africa and east through southern Asia and the East Indies to Australia. It was a bird mainly of the tropical and subtropical regions. In the western hemisphere, it first nested in Florida for a time prior to the 1940's according to most reports. It expanded its range to North Carolina by the mid-50's and since then it has been recorded as nesting as far as New England. Probably its main breeding range is from Virginia, south to the Gulf Coast



and west to Mexico.

Glossy ibises are among the colonial nesting birds that non-game biologist, Karen Terwilliger has been monitoring. Funded by the Non-Game Wildlife and Endangered Species Program, the annual surveys she conducts helps to evaluate nesting success and overall population trends. Glossy ibises nest with colonies of herons and egrets, usually in low shrubs on the high ground of the coastal islands. Its nest is a little more compact and cupped than the loose, platform-like nest of the herons and egrets. It is usually built a little lower as well. The three or four pale blue-green eggs are usually nestled in a lining of grasses, unlike those of the herons and egrets.

The young hatch in about 21 days and grow quickly on their rich sea-food diets. The downy young are dull black with a white crown. They can also be identified by three dark bands or rings around their bills.

Glossy ibises—sometimes called black curlews, bay ibis, or green ibis—inhabit mudflats or wet, flooded fields, marshes, or lake and river shores. During wet springs on the

Eastern Shore you may find flocks of them feeding in flooded fields of weeds grown up in what was a potato field last summer.

They feed on a variety of insects, grubs, worms, leeches, small snakes, grasshoppers, crayfish and probably small crabs. They feed in small groups, wading in shallow waters, hunched over with heads down and long, decurved bill working furiously, seemingly oblivious of the goings on around them. Frequently they will be found feeding with snowy egrets. The little egrets shuffle their feet in the mud as they wade stirring up tidbits of food which the glossy ibis apparently takes advantage of.

Most glossy ibises leave the shore by September and October. The young of the year may first wander northward in late-summer. They travel as far as Wisconsin, Ontario and Nova Scotia. This is a common habit of the young of numerous wading bird species, but by the time cold weather arrives, most of them have gone south to the Gulf, or the coast of Central and South America and the Caribbean. □

by Carl "Spike" Knuth

August Journal

In the Beginning, There was Trespass

History teaches that in the past things were not always as we might suppose they were, and that efforts to correct them have not always worked out as expected.

Readers of "Gleanings" previously printed in these columns know that the first open and closed seasons for hunting a native Virginia game species (deer) were decreed by colonial law as early as 1699. But the first law to protect native wild animals ran a poor second chronologically to the first enactment deemed needed some 60 years before to protect settlers' lands from others among the colonists who went a-hunting.

The matter of trespass by hunters demanded attention by colonial lawmakers in 1639, only 32 years after the founding of Jamestown and little more than a decade after the arrival of a ship bearing unattached female passengers from across the sea who clearly aroused the latent innate territorial instinct and homesteading propensity among the foraging colonists. So it came to pass quite early that the law enjoined colonists not to shoot or hunt on other men's land, on pain of paying a penalty of 40 shillings which was indeed a goodly sum in hard cash in those days for impecunious colonists to forfeit. Poaching in Colonial Virginia was regarded as one of the more serious misdemeanors a colonist might commit. Even before that, though, tribal law of the original landowners had frowned upon poaching as unbecoming and intolerable conduct, and the native Indian who dared hunt on the property of another without permission placed his person in grave jeopardy.

It may not have been quite the same among Plains Indians. Territoriality in any species is inhibited by nomadic habits and limited by practical capabilities to identify and defend boundaries, and there was a

lot of territory with relatively few and relatively mobile human inhabitants in much of western North America. But Indians of the Algonquin tribe were known by the keepers of early journals to have assigned to families in their tribe, hunting territories within their tribal domain, and these exclusive territorial hunting rights were handed down within the same families from generation to generation. Boundaries of hunting territories were well known and scrupulously observed, and were "so exact that the territories could easily have been plotted on a map." According to the old documents, poaching by Indian hunters was rare; the punishment harsh, summary, and effective. Among the Indians, mind you, good sportsmanship was not the issue. Poaching was regarded as stealing and any larcenous raid upon food supplies historically has been a capital offense in primitive societies living close to the bare subsistence level.

During the 19th century, sportsmanship did enter into the trespass picture. With the appearance of such national periodicals as *American Sportsman*, *Forest and Stream* and *Field and Stream* outdoorsmen acquired an effective means of communicating with each other. Thus a century ago gunners and anglers found that they already were looking upon themselves as members of an elite fraternity of sportsmen, sharing a well-defined code of conduct. Membership in this order of "true sportsmen" demanded proper etiquette in the field, and a major point of etiquette was respect for landowners' rights and property. Long before the turn of the century, volume after volume of popular hunting and fishing journals poured out streams of propaganda to teach the ethics and responsibilities of sportsmanship—to "educate" the public. Sportsmen, it was proclaimed over and over again, did not trespass. And so it was. One who did trespass was, by definition, not a sportsman. Still, the very volume of writings deploring an inveighing against it leaves no doubt that *somebody*—"uneducated" hunters and anglers no doubt—did too frequently commit trespass, the frowns

of "true sportsmen, not to mention landowners, not withstanding.

In 1921 it was said that, "... The money now collected in hunting licenses is now used in the main to provide a game warden force to enforce game laws, including the hunting trespass law, and the hunter who has no land and who has no friend who owns land, when he buys a hunting license is in effect helping to pay for his own arrest." About a decade and a half after the official of the Virginia Department of Game and Inland Fisheries penned those words, Virginia began to offer public hunting areas, so that licensed but landless hunters would have places to hunt without breaking the law and the rules of etiquette just by being there. But archives record no noticeable concurrent decline in trespass offenses by "uneducated" non-sportsmen.

Hunting and fishing trespass is no new concern, but it remains a current one. Operation RESPECT recognizes its currency and undertakes to deal with it—by propaganda to "educate" the public; by evoking the frowns of his peers upon the trespasser; and by excommunicating the poacher from the elite ranks of the "true sportsmen." The notion that this will work isn't exactly new either, but it too remains current. Sportsmen are demonstrably consistent, persistent and optimistic.

Maybe if there were an irreducible penalty, comparable as a percent of a hunter's income today to what 40 shillings meant to a Jamestown colonist, instead of the usual painless minimal fine that it now costs the hunter or angler to be caught trespassing—or if there were a return to treating the breaking of all game and fish laws including the trespass law as a form of larceny, and to condoning the same severe summary punishment that was administered on the spot by the Indian upon whose territory a trespasser was apprehended—well, maybe—just maybe, but who knows? We just might end up with a lot fewer disrespectful, "uneducated non-sportsmen" among us. □

by Jim McInteer

Look for Outdoor Classroom

As school begins this fall, teachers look for new and interesting activities to use during the school year. One resource available to teachers is *Virginia Wildlife* magazine. In addition to the excellent photography and information contained in the magazine, teachers will find that the copy in their school library has that extra special little something. That little extra is "Outdoor Classroom," a four-page teacher insert.

Designed as a forum for teachers to share activities and ideas, Outdoor Classroom also contains updates and information about Project WILD and other environmental education programs and publications. One of the four pages features a drawing of one of Virginia's wildlife species to be copied for the class to color.

The special Outdoor Classroom school insert is included in the complimentary copy of *Virginia Wildlife* magazine going to school libraries during the school year. For more information about Outdoor Classroom, teachers can check their school library's copy or write Outdoor Classroom, Virginia Game Commission, P.O. Box 11104, Richmond, Virginia 23230-1104. □

by Susan Gilley

Book Reviews

The Wingless Crow

I ordered a copy of *The Wingless Crow*, after reading about it in another outdoor magazine. The magazine raved about it and now it is my turn.

The Wingless Crow was written by Charles Fergus, who is a regular contributor to the Pennsylvania Game News. Fergus is keenly involved with the introspection of the outdoor world. Rarely mentioning the need for equipment or modern gadgetry to benefit from life around him, he goes

out. He has shared his observations and marvelous knowledge of things as common as flies and snowflakes to an atmospheric phenomenon known as the Perseids meteor shower. And he has written with an unmatched eye for detail and accuracy.

Fergus the naturalist is also comfortable as Fergus the sportsman. His stories involving the hunt are so real you have to believe the man was writing while carrying his shotgun afield.

Here's a sample from "A Small Brown Package;" "I like to steal onto a singing ground when the woodcock is in the air. I lie on my belly in the cold, wet grass, craning my neck to watch the bird drift down. Often he lands within a few feet, and I note that his predictable peent follows a soft, gurgling tuko. He does a turkey strut, short tail fanned like an aspen leaf, wings touching the ground, bill held high. Sometimes he trips in the grass."

The Wingless Crow is without a doubt one of the best additions to my library in a long while. Anyone who is a hunter, naturalist, photographer, hiker or in any way inclined to the outdoors should invest the ten dollars for this book.

The book is available by writing the Pennsylvania Game Commission, Dept. AR, P.O. Box 1567, Harrisburg, Pennsylvania, 17105-1567.

Birds of North America

A new idea in field guides has usually meant a complication of a system that I've finally become comfortable with. Not so with *Birds of North America*, published by Collier Books.

This first in a series will undoubtedly be a treasure to many an amateur ornithologist's library. With other regions soon to follow the Eastern Region Macmillan Field Guide offers a truly comfortable, readily accessible format for bird identification.

Birds of North America by John and Edith Bull, Gerald Gold and Pieter D. Prall, categorizes the birds by color, habit type and species instead of the usual species only. A flip through the well drawn and colored plates can put the viewer to a group of red birds, blue birds or small grayish birds just to name a

few. It serves as a quick and efficient search method.

As a bonus the book includes sections on attracting birds, food preferences, binoculars and a further discussion on each of the color plates.

Birds of North America, Macmillan Field Guides is a clean, concise and thorough reference tool for every ornithologist. □

by Jeffrey M. Curtis

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August Journal

Gold in the Trees

I've been feeding goldfinches. A lot of goldfinches and it seems that their numbers are growing. Two years ago the Game Commission undertook a project that would establish a show-place for plants that benefit wildlife; trees and shrubs that offer food and cover for songbirds and other critters. "Backyard on Broad" next to the Commission building in Richmond not only fulfilled the plant showroom mission but rekindled a personal interest to feed birds in my own backyard.

After experimenting with a couple of seed types I settled with plain old, readily available and inexpensive sunflower seeds. The store mixes looked nutritious with the cracked corn, milo and peanuts but the songbirds I really wanted around, goldfinches, cardinals and chickadees seemed to dive through everything else placed on the tray for the entree, the sunflower seeds.

For awhile my feathered guests dined on what is known as perodovic sunflower, a small, black seed often called "oilseed." Perodovic is actually a superior food with a higher fat content. The price difference was certainly superior. And empty food trays are empty food trays. So I began buying the regular, larger, striped sunflower seeds. I saved about 25 percent on the feed bill, the birds seemed healthy and happy and I was in the bird feeding business.

It took a while for the free sunflower lunch to catch on. A few resident nuthatches took advantage of the seed, a squirrel quickly caught on to the act, a pair of cardinals and then a couple of olive drab, warbler-sized birds. The birds were mistakenly identified as pine warblers. The mistaken birds quickly expanded their ranks until it became easy to count 40 of the little guys at the feeder at a time.

The mistaken birds were not correctly identified until about mid-April when mistakens started to change appearance. Gradually a tinge

of pale yellow started blushing a few in the crowd. As weeks progressed the blush turned into an all-out plumage eclipse with the birds now becoming more of a yellowish-green warbler. And by early May we knew that we had been the winter food source for goldfinches.

How bright a goldfinch looks up close. We use a hanging type feeder where the birds perch from steel rods at various places on a clear plastic tube. The feeder hangs from an oak tree not more than ten feet from our kitchen window. They've even gotten used to our coming and going in the house and return within a few seconds if one of the family steps outside.

Interesting to note that males seem to outnumber females two to one. Perhaps a reproductive strategy exists that requires a communal effort by male goldfinches to assure nesting success.

We feed our visitors year-round and encourage other feeders to do the same. Goldfinches nest in late summer when sunflowers have ripened and the large, dish-like flowers release the individual seeds. This late nesting assures an ample food supply for raising young birds. By feeding in spring and summer you ease much of the food gathering burden for the parent birds.

My field guide describes the song of a goldfinch accurately enough. A "per-chick-o-ree" with emphasis on the "chick." Walking into my backyard reminds one of entering what I imagine a tropical rain forest sounds like. Or, at least a large, open-air bird cage. The trees seem to be alive with the clear, twittery music of the birds.

We smile, stop and listen and know our trees have gold in them. □

by Jeffrey M. Curtis



Tony Barns of Eden, North Carolina struggles to hold two citation size brook trout that he caught in the North Fork of Barbour's Creek in Craig County.

About the Authors

Annette Bignami has several cookbooks to her credit, which she writes from her home in California. She is a frequent contributor to *Virginia Wildlife*. Bruch Ingram resides in Catawba and has written several articles for our magazine. The most recent of which, "Mud Puddle Bass," was published in the May 1985 issue. Bob Grewell has contributed to several outdoor magazines including *Field & Stream*, *Horse & Horseman*, and *Modern Photography*. This is his first article for *Virginia Wildlife*. Lynne Kunze, when she is not hawkwatching, lives in Troutville. This is also her first article to be published in *Virginia Wildlife*. John Copeland is a graduate of Virginia Tech, with a degree in fisheries. He is a former employee of the fish division, now living in New York. □



Virginia Wildlife staff artist, Carl "Spike" Knuth was presented two awards for excellence in watercolor painting at the 58th Annual Conference of the Outdoor Writers Association of America.

The awards presented in Phoenix, Arizona were: 1984 Excellence in Art, Watercolor Division. The award was given for a work entitled, "Black Crappie."

The Stern Fishing Line 1984 Mark of Excellence in Art Award was presented to Spike for his overall excellence in three competing categories. He received two plaques commemorating the awards as well as two cash prizes.



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